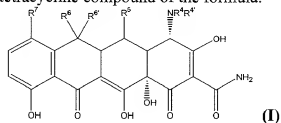


CLAIMS

1. A 7-substituted tetracycline compound of the formula:



- 5 wherein:

R^4 and $R^{4'}$ are each alkyl;

R^5 is hydrogen, hydroxyl, or a prodrug moiety;

R^6 and $R^{6'}$ are each independently hydrogen, hydroxyl, alkyl, or taken together, alkenyl;

- 10 R^7 is halo substituted or unsubstituted phenyl;

and pharmaceutically acceptable salts thereof.

2. The compound of claim 1, wherein R^5 , R^6 and $R^{6'}$ are each hydrogen and R^4 and $R^{4'}$ are each methyl.

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3. The compound of claim 1, wherein R^7 is unsubstituted phenyl.

4. The compound of claim 3, wherein said compound is 7-phenylsancycline.

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5. The compound of claim 1, wherein R^7 is 2-substituted phenyl.

The compound of claim 5, wherein said compound is selected from the group consisting of 7-(2-fluorophenyl) sancycline, 7-(2-chlorophenyl) sancycline, 7-(2-bromophenyl) sancycline, and 7-(2-iodophenyl) sancycline.

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7. The compound of claim 1, wherein R^7 is 3-substituted phenyl.

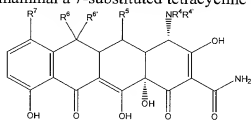
The compound of claim 7, wherein said compound is selected from the group consisting of 7-(3-fluorophenyl) sancycline, 7-(3-chlorophenyl) sancycline, 7-(3-bromophenyl) sancycline, and 7-(3-iodophenyl) sancycline.

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9. The compound of claim 1, wherein R^7 is 4-substituted phenyl.

10. The compound of claim 9, wherein said compound is selected from the group consisting of 7-(4-fluorophenyl) sancycline, 7-(4-chlorophenyl) sancycline, 7-(4-bromophenyl) sancycline, 7-(4-iodophenyl) sancycline, 7-(4-trichloromethylphenyl) sancycline, 7-(4-trifluoromethylphenyl) sancycline, 7-(4-tribromomethylphenyl) sancycline, and 7-(4-triodomethylphenyl) sancycline.

11. A method for treating a tetracycline responsive state in a mammal, comprising administering to said mammal a 7-substituted tetracycline compound of formula (I):



(I)

- 10 wherein:

- 15 R^4 and $R^{4'}$ are each alkyl;
 R^5 is hydrogen, hydroxyl, or a prodrug moiety;
 R^6 and $R^{6'}$ are each independently hydrogen, hydroxyl, alkyl, or taken together, alkenyl;
 R^7 is halo substituted or unsubstituted phenyl; and pharmaceutically acceptable salts thereof, such that the tetracycline responsive state is treated.

12. The method of claim 11, wherein R^5 , R^6 and $R^{6'}$ are each hydrogen and R^4 and $R^{4'}$ are each methyl.

13. The method of claim 11, wherein R^7 is unsubstituted phenyl.

14. The method of claim 13, wherein said compound is 7-phenylsancycline.

15. The method of claim 1, wherein R^7 is 2-substituted phenyl.

16. The method of claim 15, wherein said compound is selected from the group consisting of 7-(2-fluorophenyl) sancycline, 7-(2-chlorophenyl) sancycline, 7-(2-bromophenyl) sancycline, and 7-(2-iodophenyl) sancycline.

17. The method of claim 11, wherein R^7 is 3-substituted phenyl.

